

REGISTO ONCOLÓGICO PROMOTOR DA QUALIDADE ASSISTENCIAL



15 de março de 2017

Tumores torácicos: Retrato de 5 anos (2011 a 2015)

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2012
184 países

14.1 milhões de novos casos de cancro
8.1 milhões de morte por cancro

Cancro do Pulmão

1.8 milhões de novos casos de cancro do pulmão
~ **13% do total** de cancros (Europa e EUA)

Europa: 4º tumor mais comum

**O cancro do pulmão é a causa mais comum
de morte por cancro a nível mundial**

Projecto
GLOBOCAN
www.globocan.iarc.fr

IACR

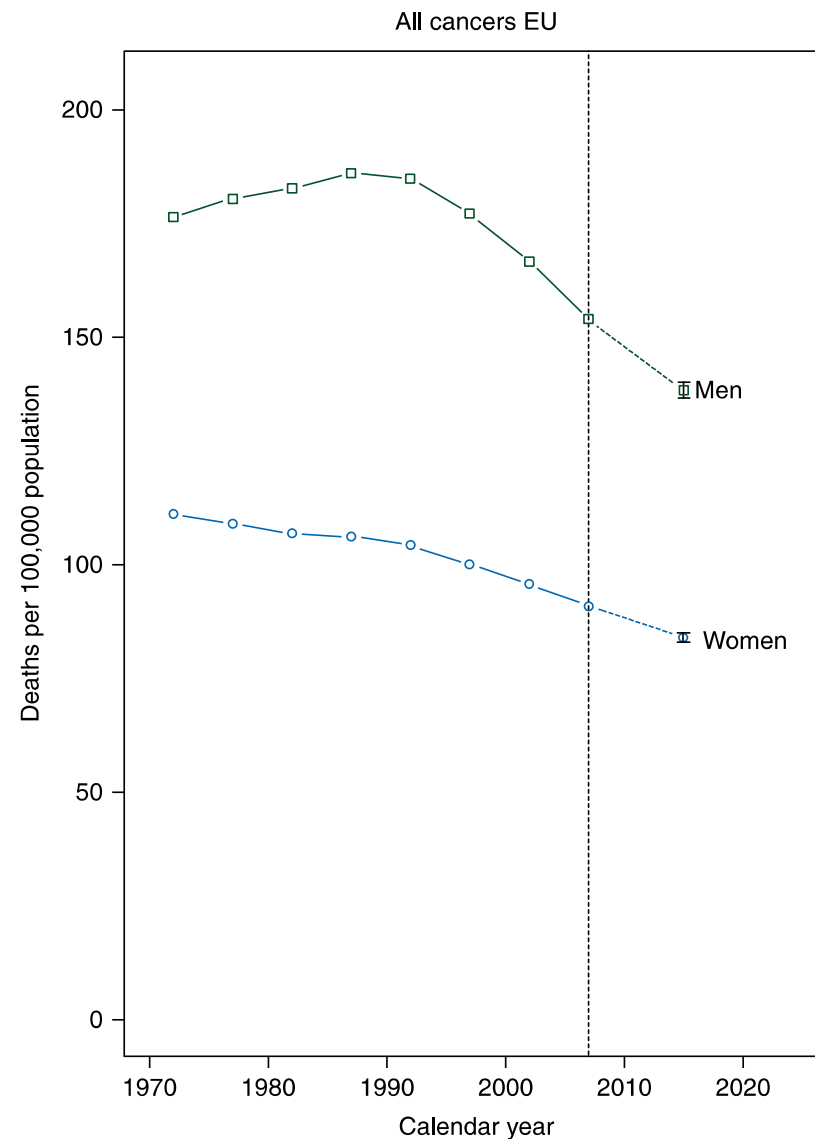
International Association
of Cancer

WHO

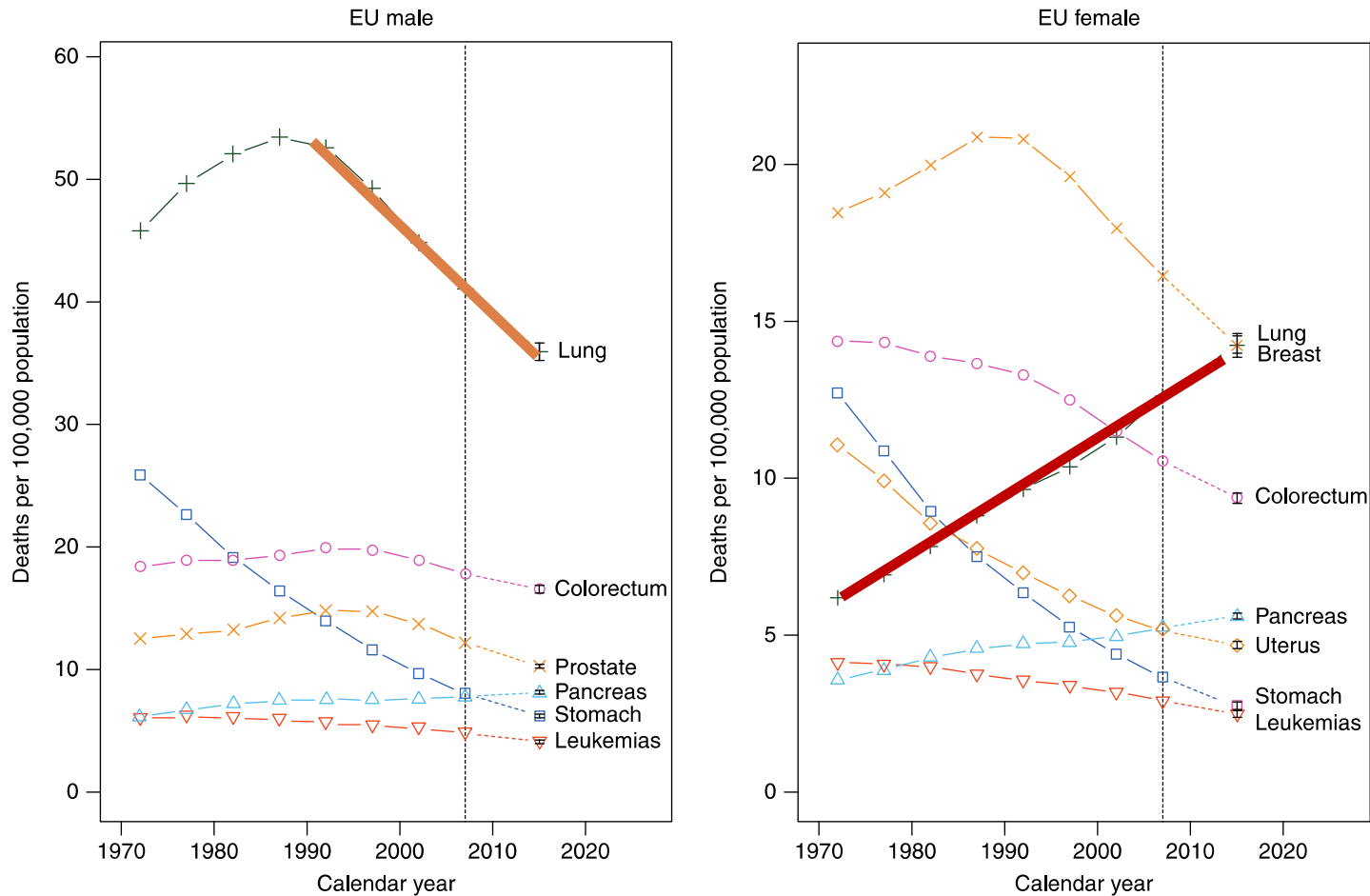
World Health Organization



Mortalidade por cancro na União Europeia



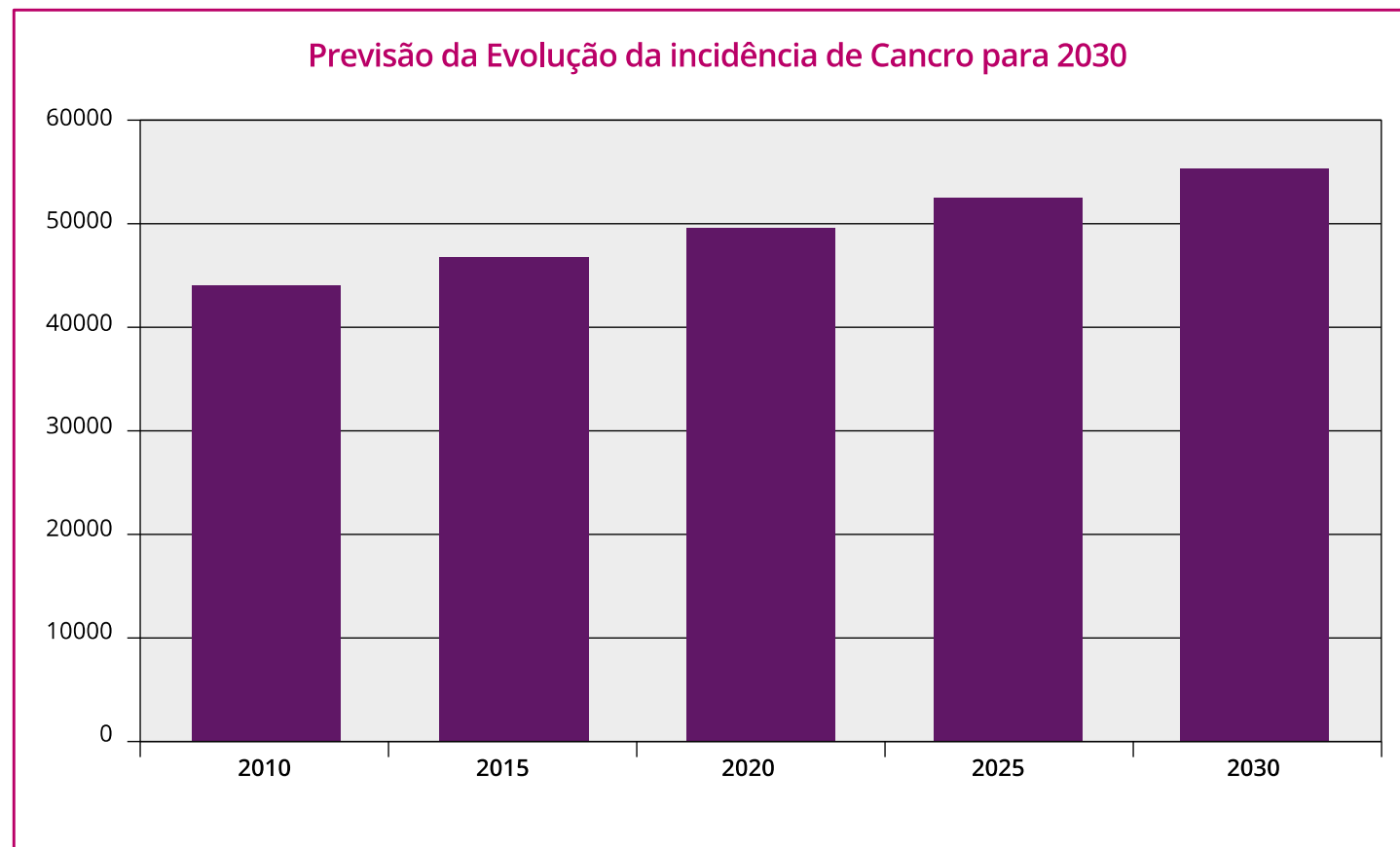
European cancer mortality predictions for the year 2015: does lung cancer have the highest death rate in EU women?



Previsão da evolução da incidência de cancro em Portugal- 2010 a 2030

PORTUGAL DOENÇAS ONCOLÓGICAS EM NÚMEROS - 2013

Programa Nacional para as
Doenças Oncológicas



Fonte: IARC





Panorama atual do cancro do Pulmão

- Principal causa de morte por cancro no mundo
- Baixa sobrevida aos 5 anos
- Ausência de sintomatologia nas fases mais precoces
- 15 % dos casos são diagnosticados numa fase precoce



Estimated New Cases*

			Males	Females			
Prostate	233,000	27%			Breast	232,670	29%
Lung & bronchus	116,000	14%			Lung & bronchus	108,210	13%
Colorectum	71,830	8%			Colorectum	65,000	8%
Urinary bladder	56,390	7%			Uterine corpus	52,630	6%
Melanoma of the skin	43,890	5%			Thyroid	47,790	6%
Kidney & renal pelvis	39,140	5%			Non-Hodgkin lymphoma	32,530	4%
Non-Hodgkin lymphoma	38,270	4%			Melanoma of the skin	32,210	4%
Oral cavity & pharynx	30,220	4%			Kidney & renal pelvis	24,780	3%
Leukemia	30,100	4%			Pancreas	22,890	3%
Liver & intrahepatic bile duct	24,600	3%			Leukemia	22,280	3%
All Sites	855,220	100%			All Sites	810,320	100%

Estimated Deaths



			Males	Females			
Lung & bronchus	86,930	28%			Lung & bronchus	72,330	26%
Prostate	29,480	10%			Breast	40,000	15%
Colorectum	26,270	8%			Colorectum	24,040	9%
Pancreas	20,170	7%			Pancreas	19,420	7%
Liver & intrahepatic bile duct	15,870	5%			Ovary	14,270	5%
Leukemia	14,040	5%			Leukemia	10,050	4%
Esophagus	12,450	4%			Uterine corpus	8,590	3%
Urinary bladder	11,170	4%			Non-Hodgkin lymphoma	8,520	3%
Non-Hodgkin lymphoma	10,470	3%			Liver & intrahepatic bile duct	7,130	3%
Kidney & renal pelvis	8,900	3%			Brain & other nervous system	6,230	2%
All Sites	310,010	100%			All Sites	275,710	100%

FIGURE 1. Ten Leading Cancer Types for the Estimated New Cancer Cases and Deaths by Sex, United States, 2014.

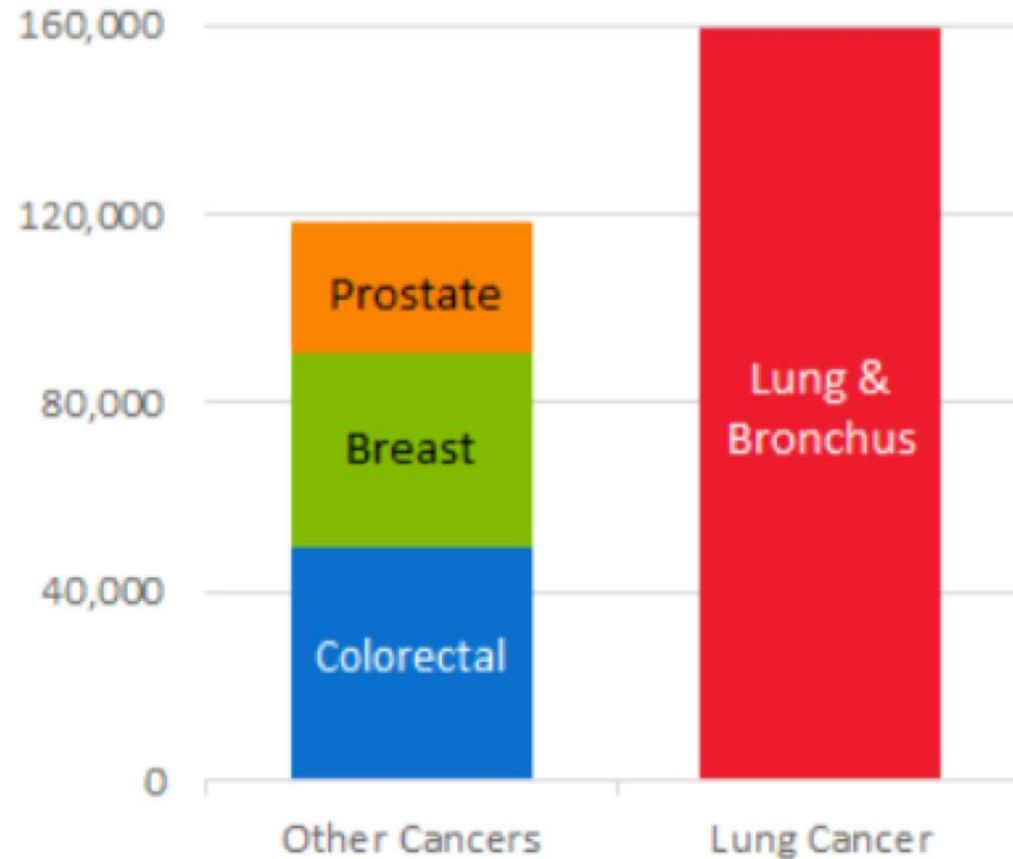
*Estimates are rounded to the nearest 10 and exclude basal cell and squamous cell skin cancers and in situ carcinoma except urinary bladder.

Panorama

EUA



Estimated Cancer Deaths by Site, 2015²



Mortes estimadas por cancro

2015



Sobrevida global aos 5 anos

**Sobrevida aos 5 A na
doença localizada:
55%**

**Sobrevida aos 5 A na
localmente
avançada:
28%**

**Sobrevida aos 5 A na
doença
metastizada:
4,3%**

16% doença localizada
22% doença localmente
avançada
57% doença metastizada
5% est. desconhecido

**US(2006-2012)
SV global aos 5 A:
17.7%**



Dados nacionais

Prevalência e incidência das doenças respiratórias em Portugal

ONDR

- Asma – 1.000.000 (10% da população)
- Doença Pulmonar Obstrutiva Crónica (DPOC) – 800.000 (14,2% dos indivíduos com mais de 40 anos)
- **Cancro do Pulmão – 38/100.000 habitantes. 29/100.000 nos homens e 9/100.000 nas mulheres**
- Pneumonias – afectam 23,6% da população. Portugal é o terceiro país da União Europeia com a maior taxa de mortalidade elevada
- Fibroses Pulmonares – não existem dados, mas o número de internamentos aumentou
- Gripe – pico da gripe correspondeu a 69,6 síndromas gripais por 100.000 habitante
- Tuberculose – 2.529 casos em 2012
- Apneia do Sono - Cerca de 250.000 doentes

2014
4336 óbitos
6278
internamentos

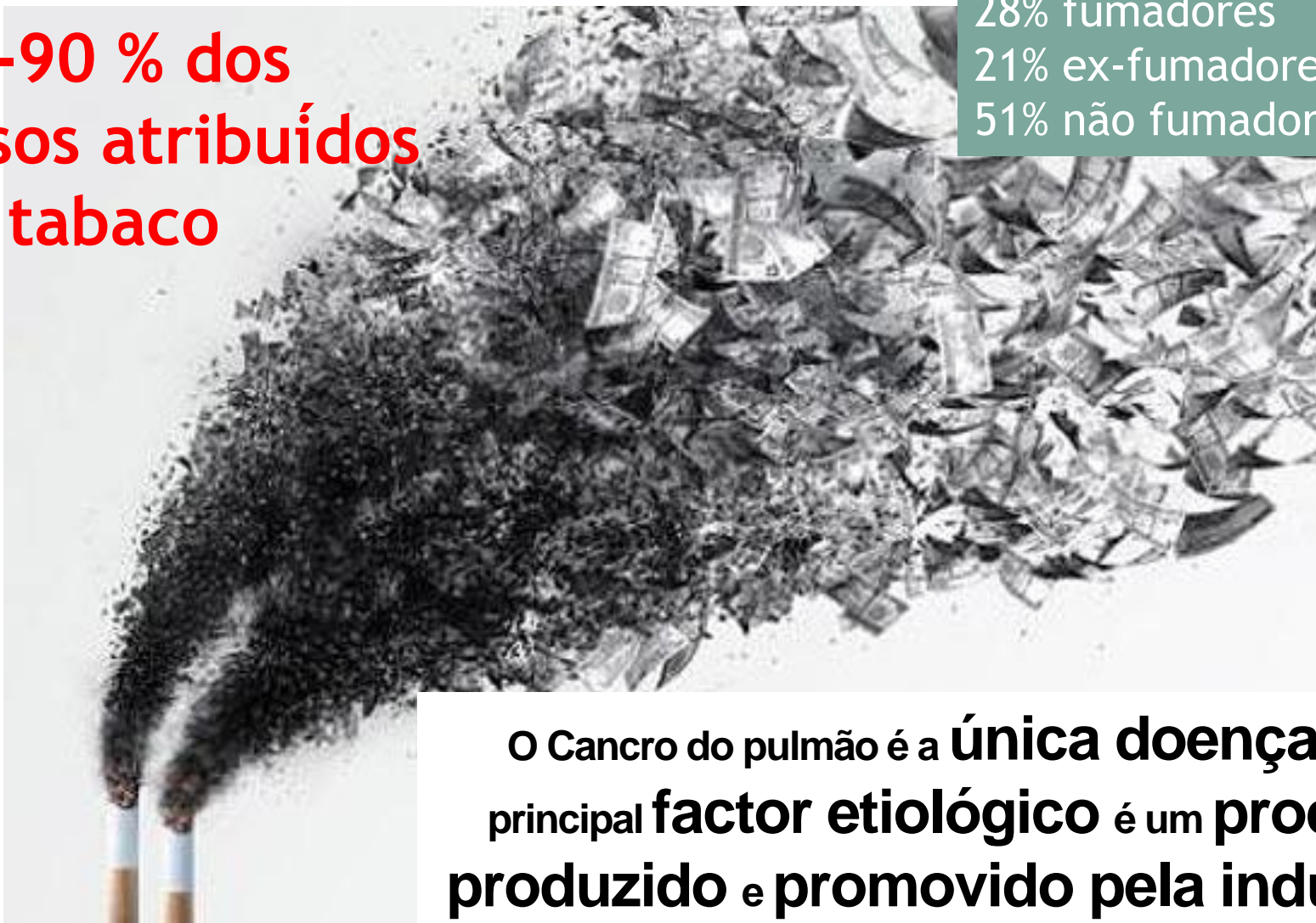
Em Portugal ocupa o 4º lugar em incidência logo atrás do cancro da mama, próstata e colo-rectal.

Cancro com maior taxa de mortalidade



**80-90 % dos
casos atribuídos
ao tabaco**

Eurobarómetro- adultos europeus
28% fumadores
21% ex-fumadores
51% não fumadores



O Cancro do pulmão é a **única doença** cujo
principal **factor etiológico** é um **produto**
produzido e promovido pela indústria.





Abordagem do doente



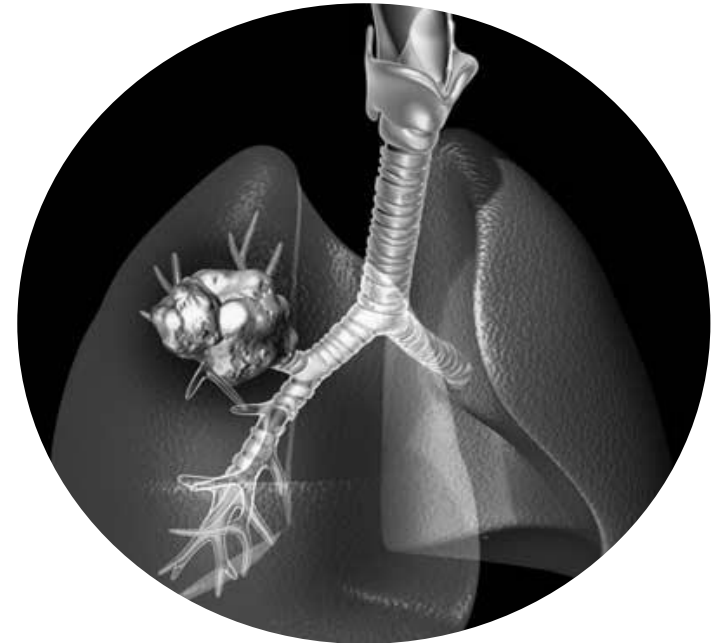
Princípios da avaliação diagnóstica

Considerar o procedimento menos invasivo

Material
histológico ou
citológico

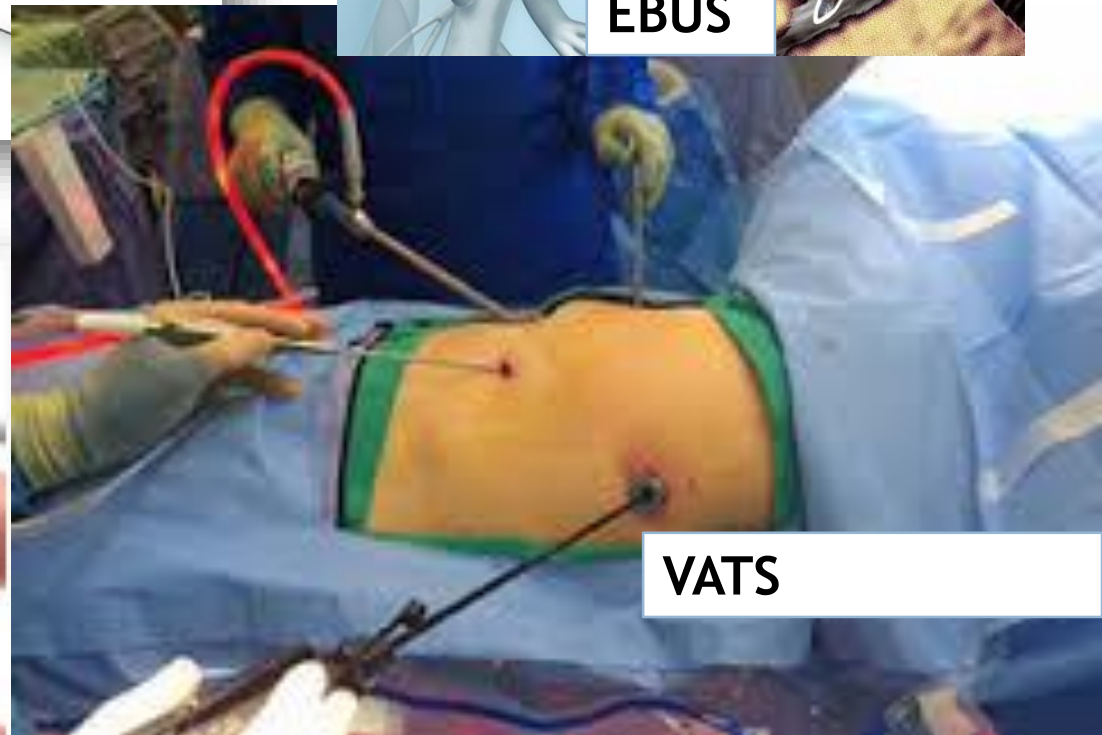
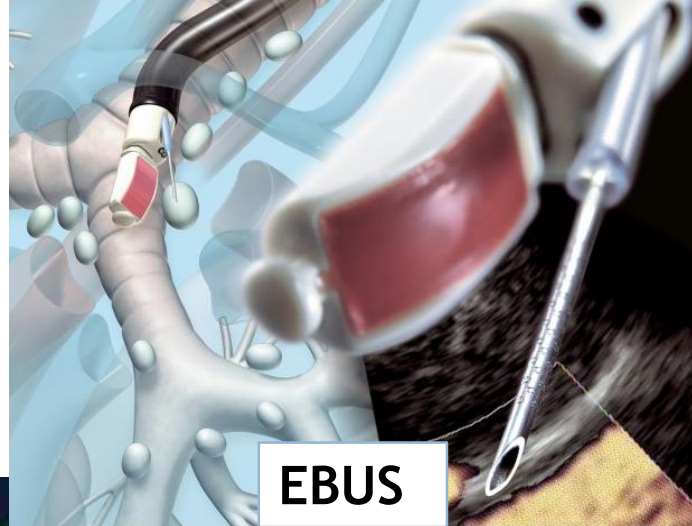
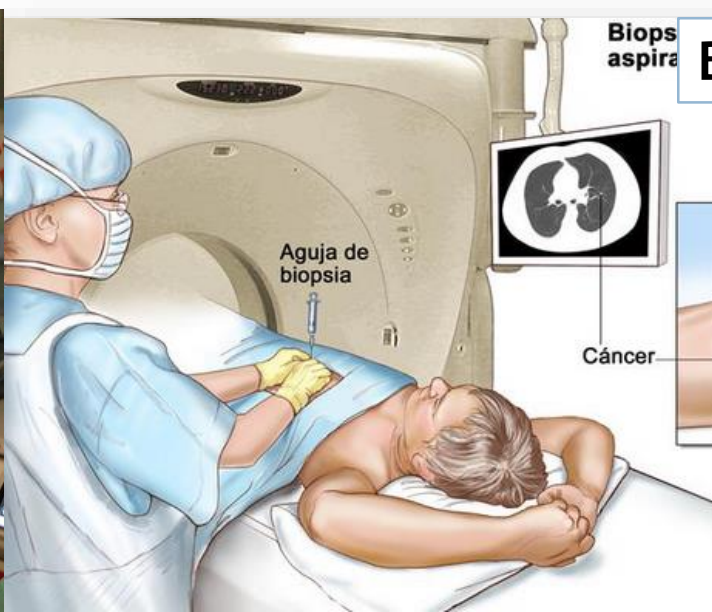
Obter material
adequado para
diagnóstico,
imunohistoquímica e
análise mutacional

Diagnóstico anatômico, morfológico e
molecular



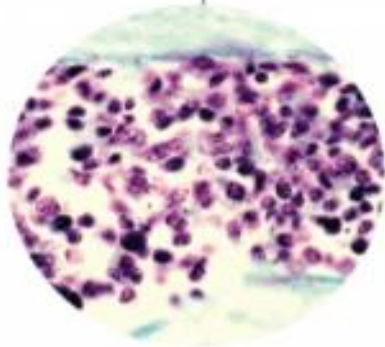
**Marcha
diagnóstica
individualizada**



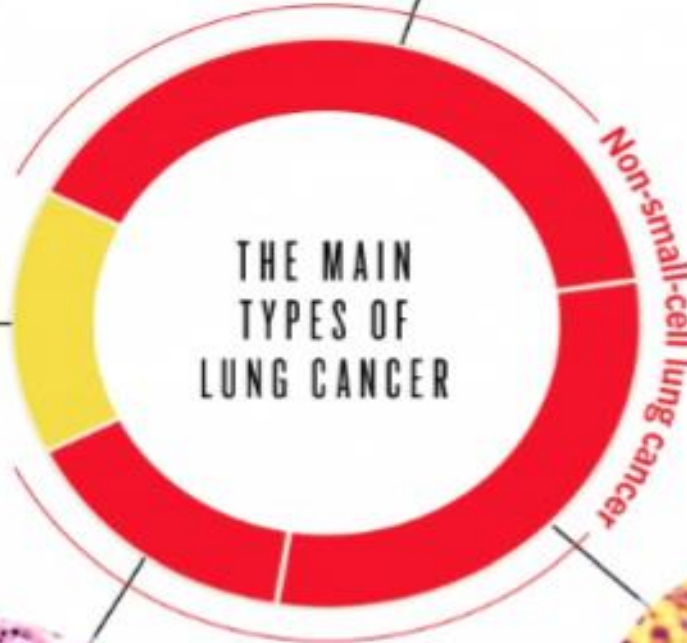


● **Small-cell lung cancer (15%)**

Usually seen in cells near the bronchi, small-cell lung cancer is almost always caused by smoking and is very aggressive. Only 6% of US patients with small-cell lung cancer survive five years after diagnosis, compared with 21% of those with non-small-cell lung cancer.

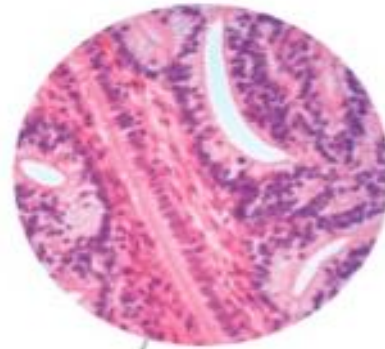


THE MAIN
TYPES OF
LUNG CANCER



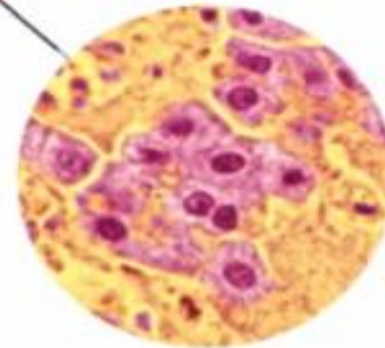
● **Adenocarcinoma (40%)**

This is the most prevalent form of lung cancer and usually arises in the cells lining the alveoli. It is a common form of lung cancer in people who have never smoked, but is also seen in smokers.



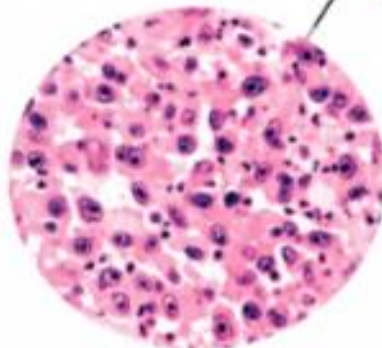
● **Squamous cell carcinoma (30%)**

These tumours appear in the flat cells that line the inside of the airways, usually near the bronchi. This form of the disease is usually caused by smoking and is more common in men than women. The tumours tend to grow slowly.



● **Large cell carcinoma (15%)**

This type of cancer can begin in any part of the lung, and often grows and spreads quickly.



Classificação histológica -WHO 2015

2004 WHO classification

SCC
SCLC
ADC
Large cell lung carcinoma
Adenosquamous carcinoma
Sarcomatoid carcinoma
Carcinoid tumour
Salivary gland tumours

2015 WHO classification

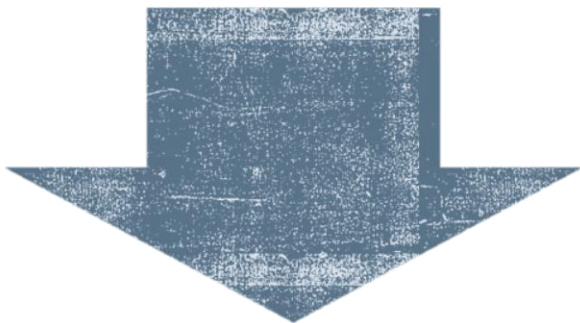
ADC
SCC
Neuroendocrine tumours
Large cell lung carcinoma
Adenosquamous carcinoma
Sarcomatoid carcinomas
Other and unclassified carcinomas
Salivary gland tumours



Classificação histológica -WHO 2015

- O termo genérico Carcinoma Pulmonar não Pequenas Células (CPNPC) é desencorajado
- **Classificação do Adenocarcinoma:**
 - **ADC in situ:** ≤ 3 cm, crescimento lepidico, mucinoso, não-mucinoso ou misto
 - **ADC minimamente invasivo:** ≤ 3 cm com ≤ 5 mm de invasão, crescimento lepidico, mucinoso, não-mucinoso ou misto
 - **ADC invasivo:** lepidico, > 5 mm de invasão; acinar, papilar, micropapilar ou sólido com mucina
 - **Variantes de ADC invasivo:** ADC mucinoso, colóide, fetal, variante entérica





Adenocarcinoma

Aumento das N-
nitrosaminas



Carcinoma escamoso

Redução nos
hidrocarbonetos aromáticos
policíclicos



Table 1. Examples of molecular aberrations in lung cancer

	SCLC	NSCLC
Oncogenes		
RAS mutation	<1%	~15–20%
MYC amplification/overexpression	~15–30%	~5–10%
EGFR mutation	Rare	~10% (higher in Asians, nonsmokers, ADC, females)
EML4/ALK fusion		~1–5%
ROS1 fusion		~1–2%
LKB1 mutation		37%
HER2 mutation/amplification		~2–4%
PIK3CA mutation/amplification		~2–18%
TTF1 amplification		~15%
BRAF alterations		~2–3%
MET mutation/amplification	? rare	~1–20%
FGFR1 amplification		~22% SCC
SOX2 amplification		~23%
Autocrine loops	GRP/GRPR, SCF/KIT	HGF/MET, neuregulin/ERBB
Tumour suppressor genes		
CDKN2A mutation	<1%	~10–40%
TP53 mutation	~75–100%	~50%
17p LOH	~80–90%	~70%
Absent RB1 expression	~90%	~15–30%
13q LOH	~75%	~40–60%
3p allele loss	>90%	~50–80%
9p LOH	~20–50%	~50–75%

GRP: gastrin-releasing peptide; GRPR: GRP receptor; SCF: stem cell factor; LOH: loss of heterozygosity.

Alterações moleculares no cancro do pulmão

Screening Molecular no CPNPC

CPNPC

Outras mutações?
HER-2, BRAF,
MEK1, AKT1,
PI3K/mTOR, etc

Mutação Kras

KRAS+ (15 - 30%)
Insensibilidade
TKIs EGFR

Mutação

EGFR+ (10%)
Sensibilidade
TKIs EGFR

Gene de
fusão ALK

ALK+ (3 - 5%)
Sensibilidade
inibidores ALK



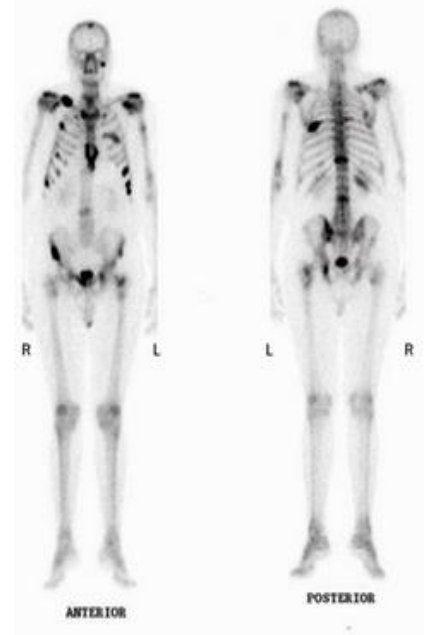
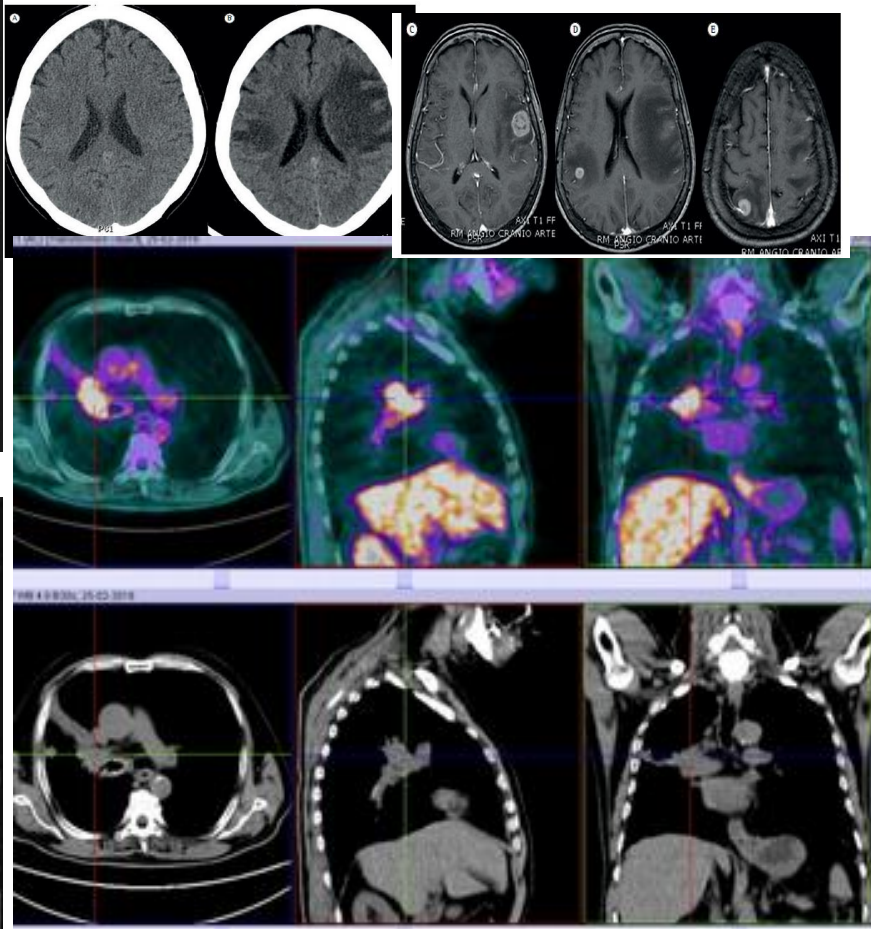


Table 1 Seventh tumour, node, metastasis classification of lung cancer: January 2010^[10]

T: Tumour

TX	Primary tumour cannot be assessed, or tumour proven by the presence of malignant cells in sputum or bronchial washings but not visualized by imaging or bronchoscopy
T0	No evidence of primary tumour
Tis	Carcinoma <i>in situ</i>
T1	Tumour < 3 cm in greatest dimension, surrounded by lung or visceral pleura, without bronchoscopic evidence of invasion more proximal than the lobar bronchus (i.e., not in the main bronchus)
T1a	Tumour < 2 cm in greatest dimension
T1b	Tumour > 2 cm but < 3 cm in greatest dimension
T2	Tumour > 3 cm but < 7 cm or tumour with any of the following features (T2 tumours with these features are classified T2a if < 5 cm): Involves main bronchus, > 2 cm distal to the carina Invades visceral pleura Associated with atelectasis or obstructive pneumonitis that extends to the hilar region but does not involve the entire lung
T2a	Tumour > 3 cm but < 5 cm in greatest dimension
T2b	Tumour > 5 cm but < 7 cm in greatest dimension
T3	Tumour > 7 cm or one that directly invades any of the following: Chest wall (including superior sulcus tumours), diaphragm, phrenic nerve, mediastinal pleura, parietal pericardium Tumour in the main bronchus < 2 cm distal to the carina but without involvement of the carina Associated atelectasis or obstructive pneumonitis of the entire lung Separate tumour nodule(s) in the same lobe
T4	Tumour of any size that invades any of the following: Mediastinum, heart, great vessels, trachea, recurrent laryngeal nerve, esophagus, vertebral body, carina Separate tumour nodule(s) in a different ipsilateral lobe

N: Nodes

- NX Regional lymph nodes cannot be assessed
- N0 No regional lymph node metastasis
- N1 Metastasis in ipsilateral peribronchovascular lymph node(s), including involvement by direct extension
- N2 Metastasis in ipsilateral mediastinal lymph node(s)
- N3 Metastasis in contralateral mediastinal lymph node(s) or contralateral hilar lymph node(s)

M: Metastases

- MX Distant metastasis cannot be assessed
- M0 No distant metastasis
- M1 Distant metastasis
 - M1a Separate tumour nodule(s) in a contralateral lung or tumour with pleural nodules or nodules in the contralateral lung
 - M1b Distant metastasis

		N0	N1	N2	N3	M1
T1	a	IA	IIA	IIIA	IIIB	IV
	b					
T2	a	IB	IIA	IIIA	IIIB	IV
	b	IIA	IIIB			
T3		IIIB	IIIA	IIIA	IIIB	IV
T4		IIIA	IIIA	IIIB	IIIB	IV
M1	a	IV	IV	IV	IV	
	b					



8th TNM Lung Cancer Proposal

Descriptor	7th edition	Proposal for 8th edition
<= 1 cm	T1a	T1a
> 1 - 2 cm	T1a	T1b
> 2 - 3 cm	T1b	T1c
> 3 - 4 cm	T2a	T2a
> 4 - 5 cm	T2a	T2b
> 5 - 7 cm	T2b	T3
> 7 cm	T3	T4
Bronchus < 2 cm	T3	T2
Complete atelectasis/pn	T3	T2
Diaphragm invasion	T3	T4
Mediastinal pleura	T3	-

Maior relevância ao tamanho do tumor

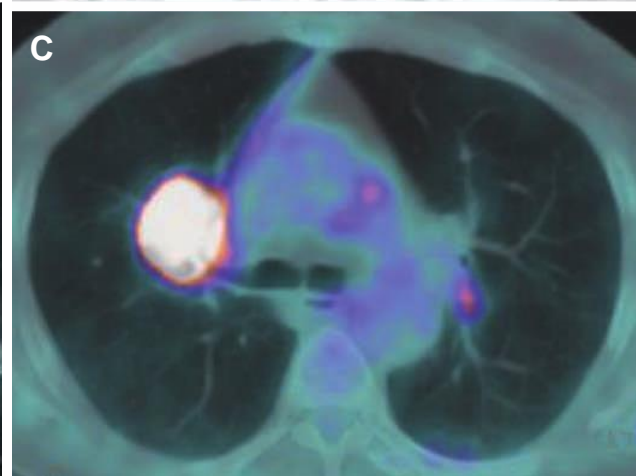
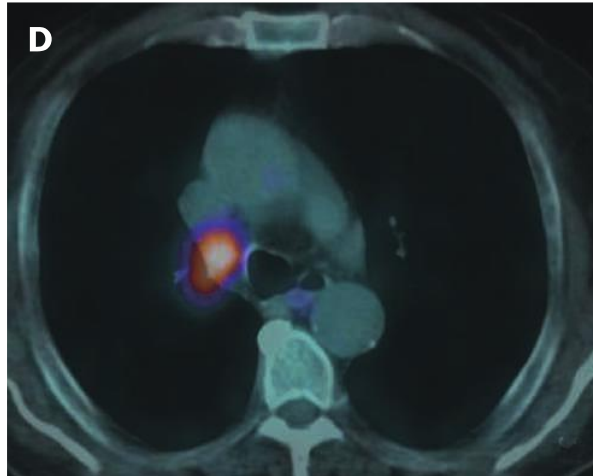
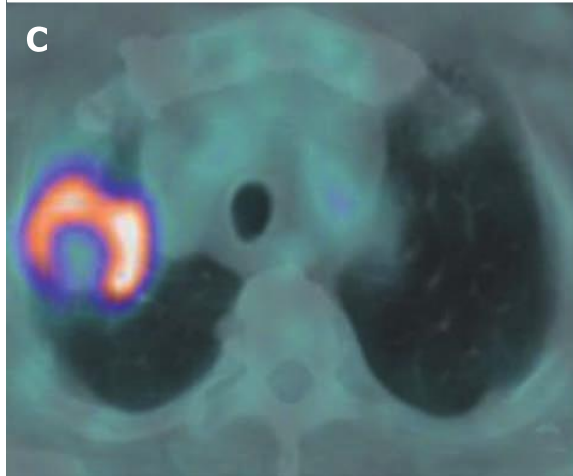
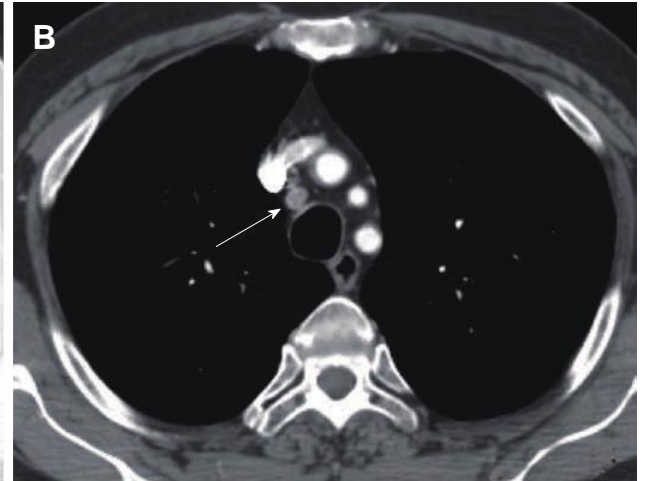
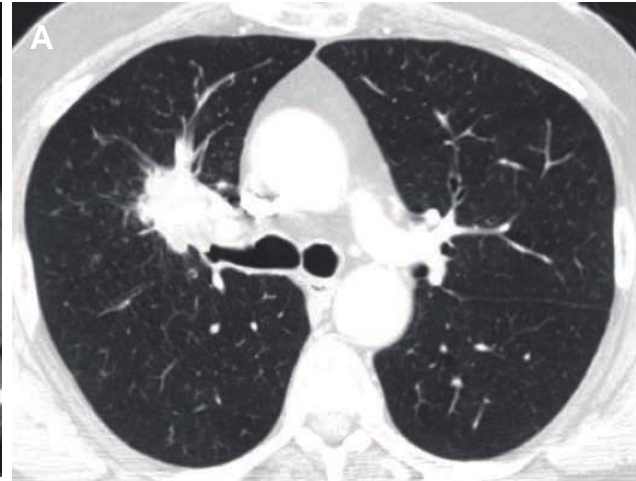
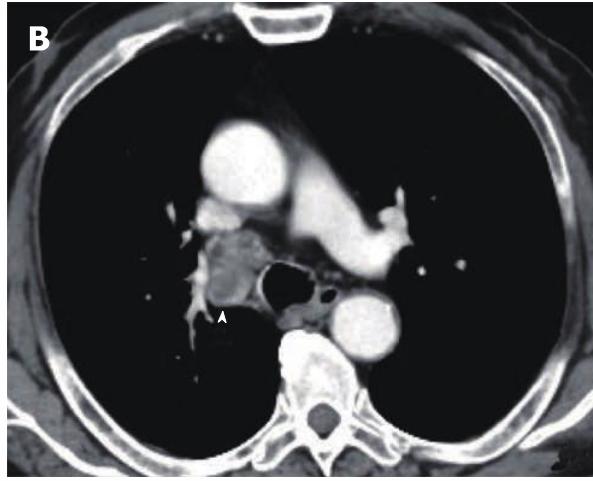
- M1a: as it is
- M1b: single metastasis in single organ
- M1c: multiple metastases in single organ or in several organs



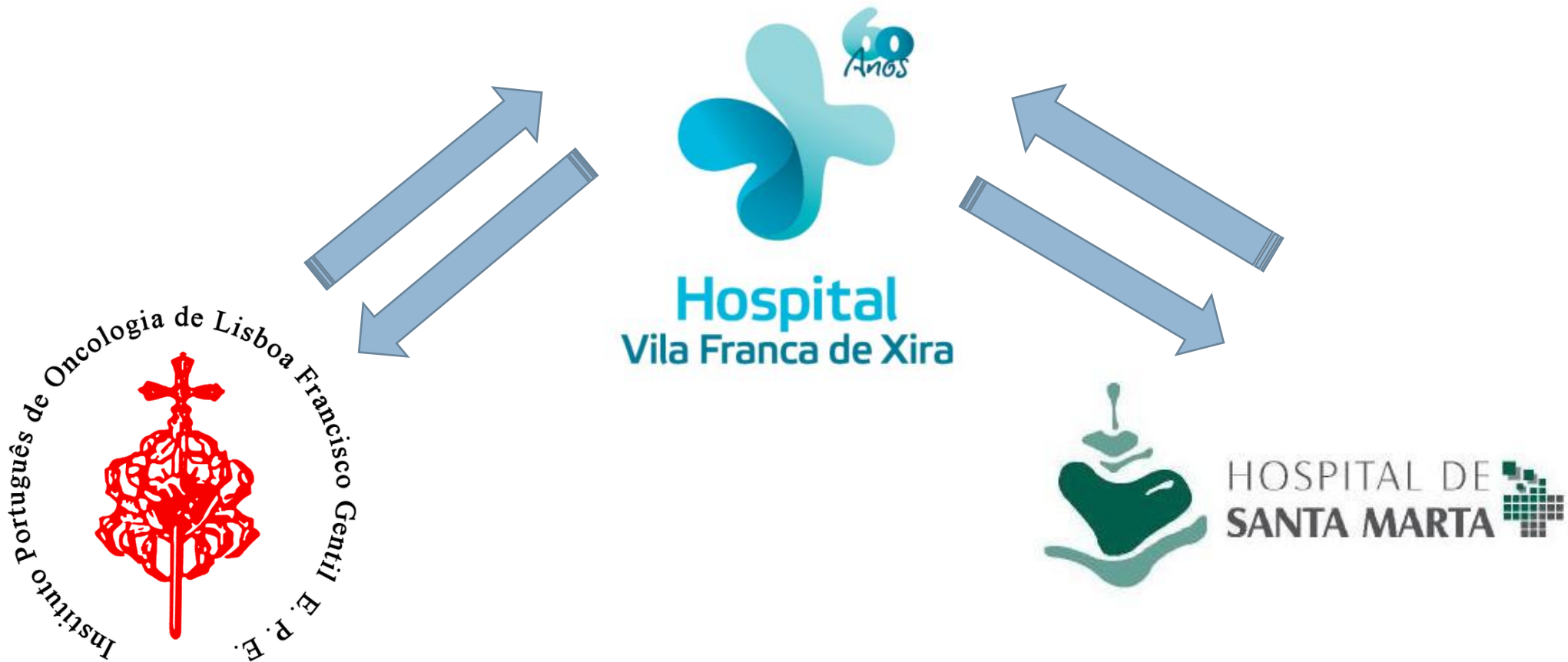
Proposed Stage Groupings

	N0	N1	N2	N3	M1a any N	M1b any N	M1c any N
T1a	IA1	IIB	IIIA	IIIB	IVA	IVA	IVB
T1b	IA2	IIB	IIIA	IIIB	IVA	IVA	IVB
T1c	IA3	IIB	IIIA	IIIB	IVA	IVA	IVB
T2a	IB	IIB	IIIA	IIIB	IVA	IVA	IVB
T2b	IIA	IIB	IIIA	IIIB	IVA	IVA	IVB
T3	IIB	IIIA	IIIB	IIIC	IVA	IVA	IVB
T4	IIIA	IIIA	IIIB	IIIC	IVA	IVA	IVB





Referenciação dos doentes com tumores torácicos



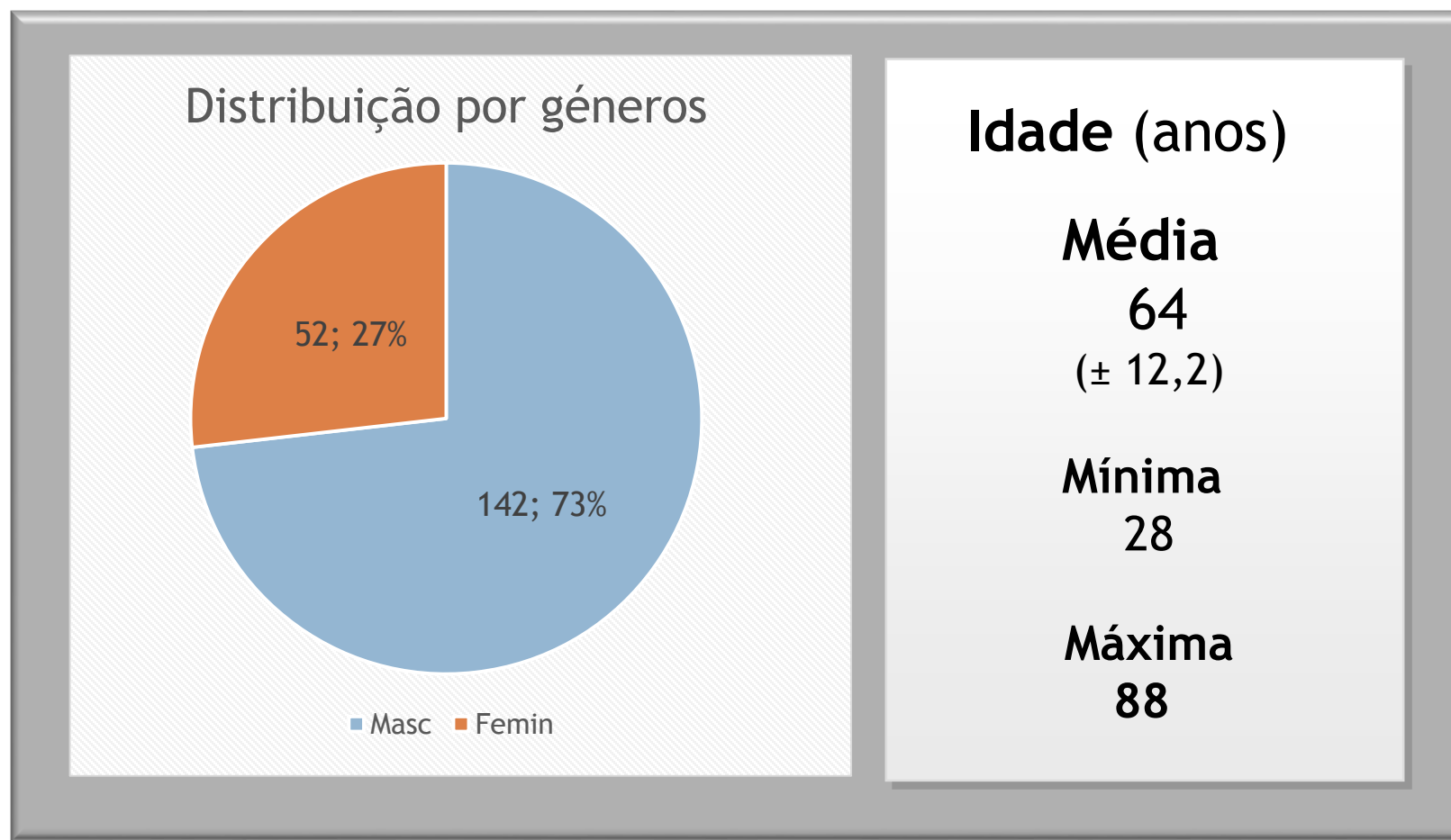
Tumores torácicos diagnosticados no HVFX

2011 a 2015

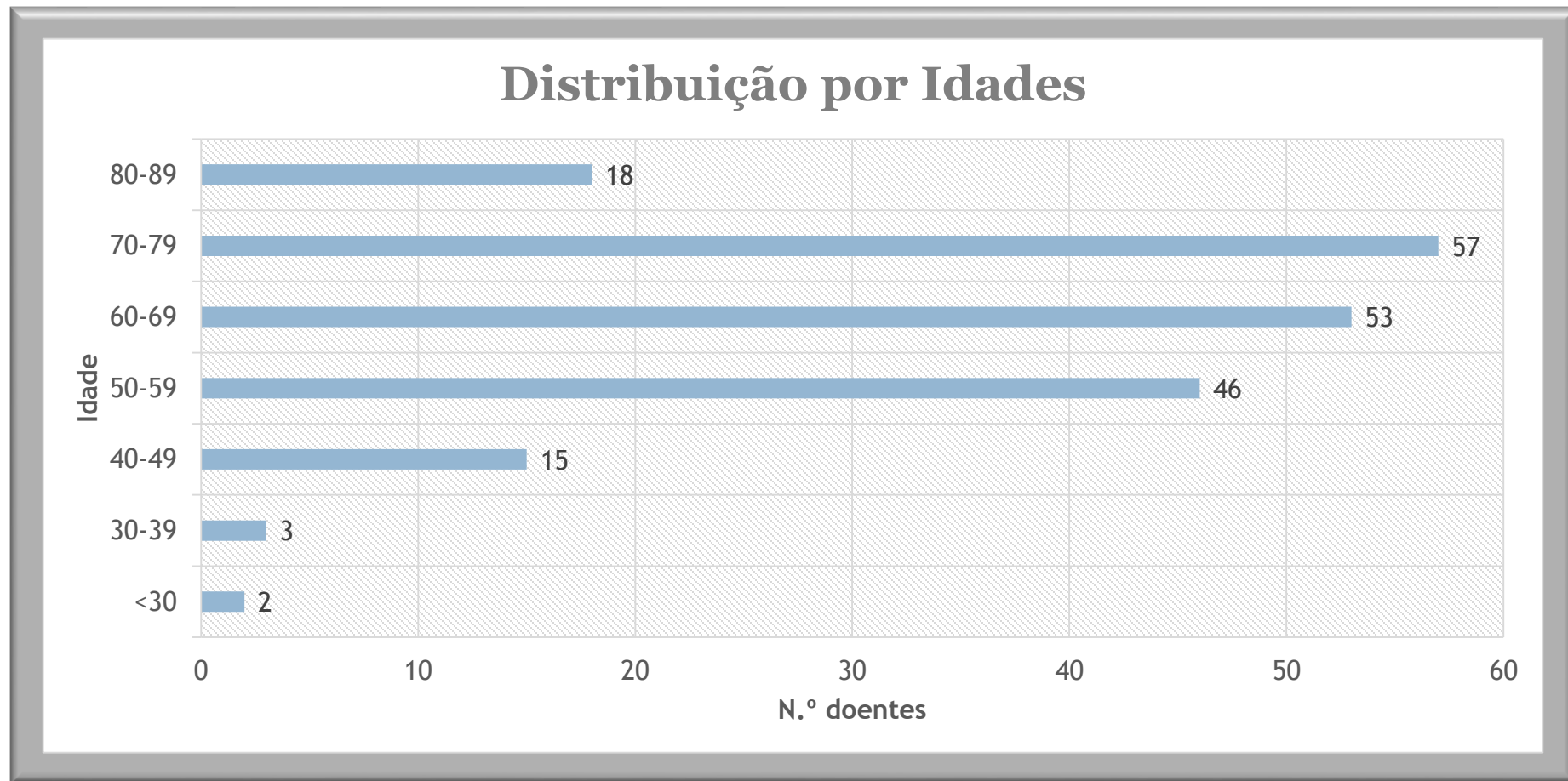
Fonte: ROR



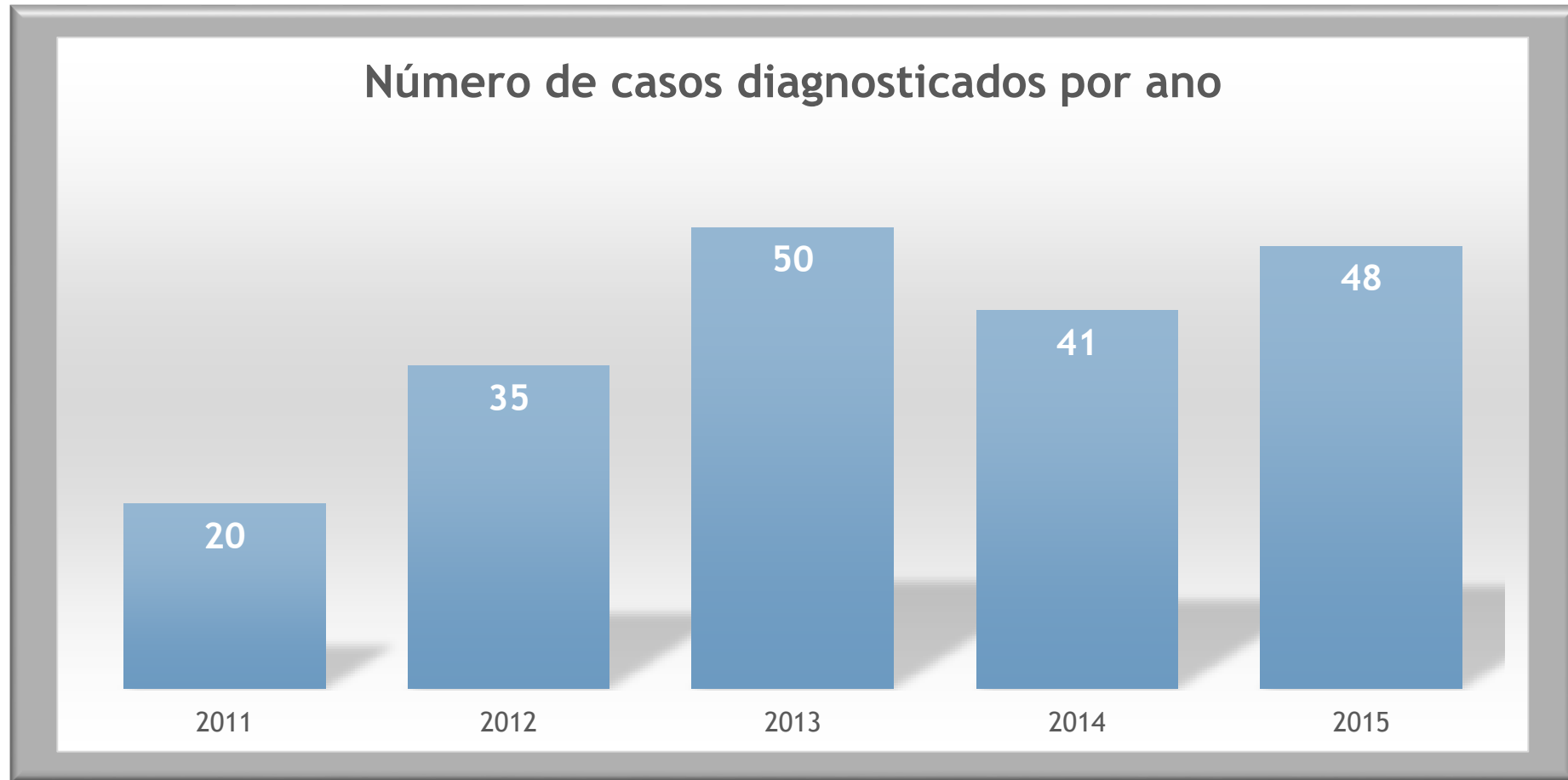
Tumores torácicos (n=194)



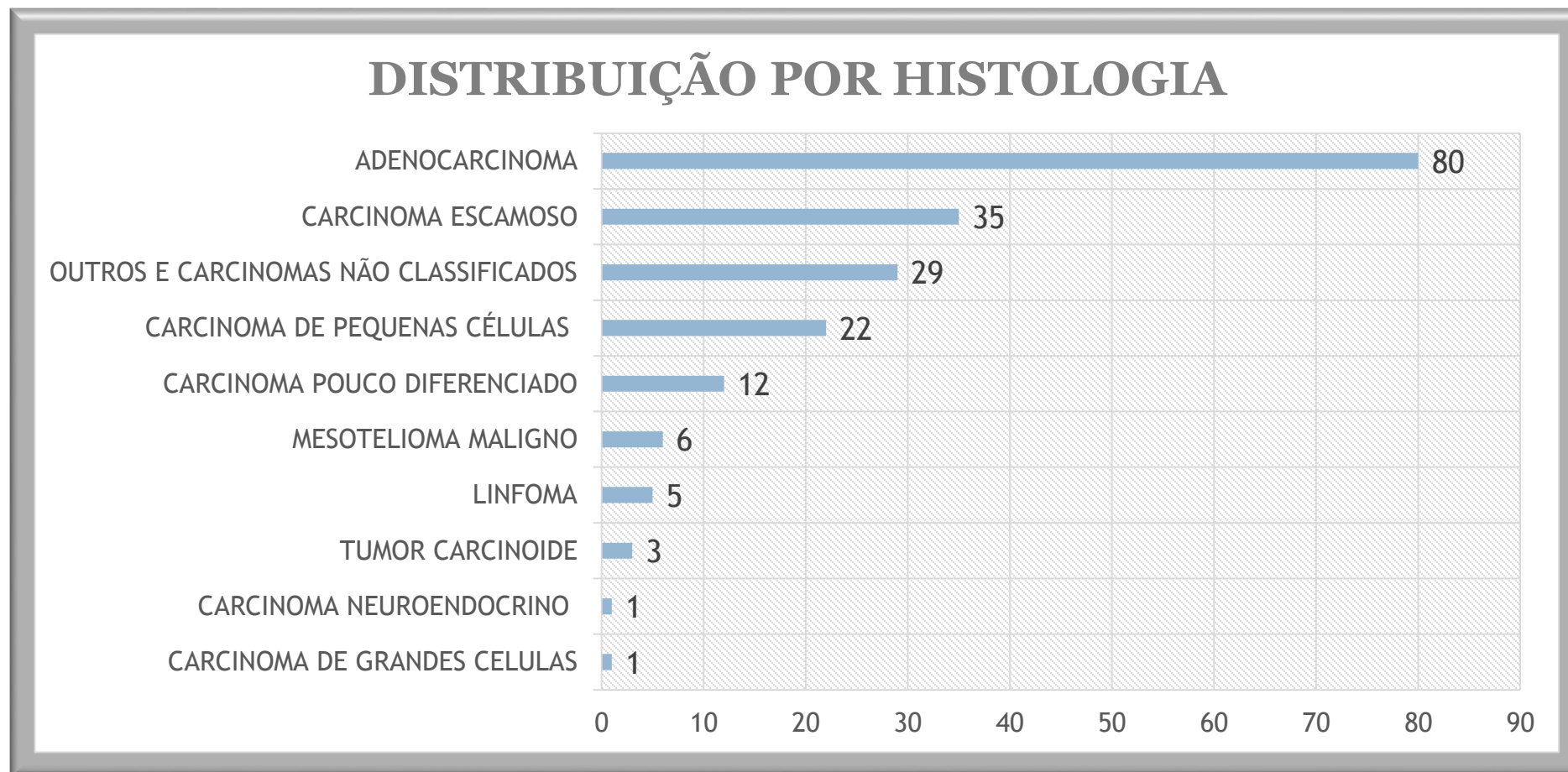
Tumores torácicos (n=194)



Tumores torácicos (n=194)



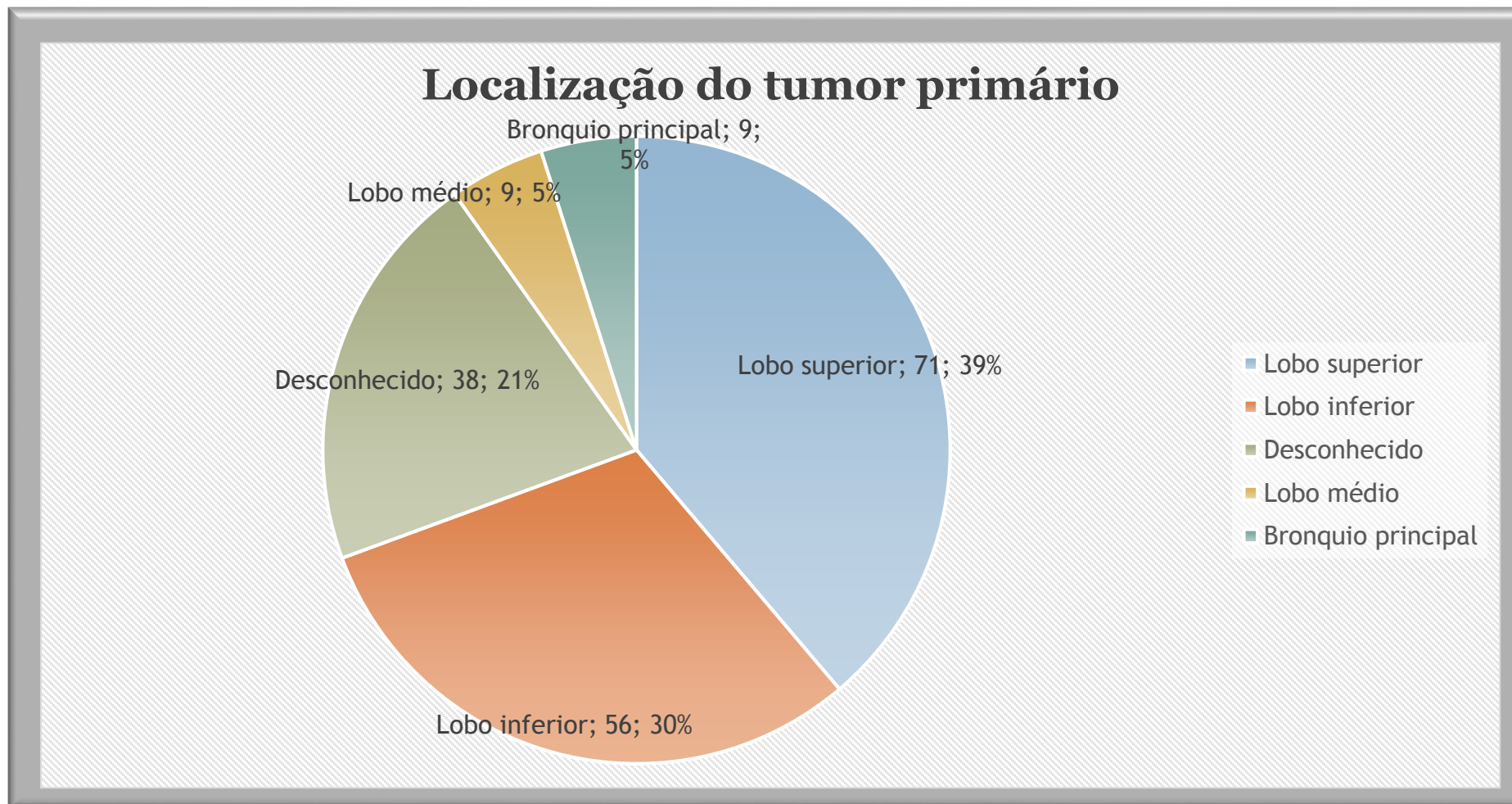
Tumores torácicos (n=194)



183 TUMORES DO PULMÃO, 6 MESOTELIOMAS, 5 LINFOMAS



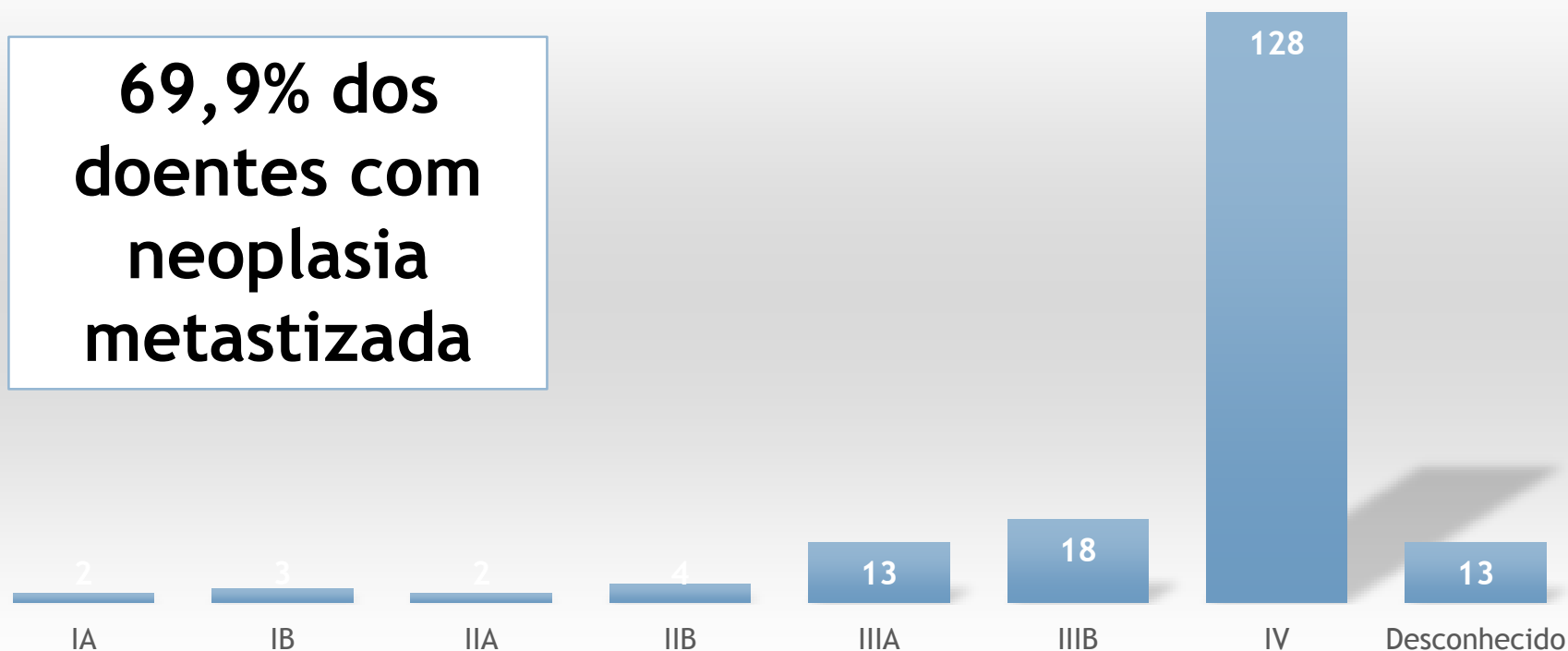
Cancro do Pulmão (n=183)



Cancro do Pulmão (n=183)

Estadiamento TNM

69,9% dos doentes com neoplasia metastizada



16% doença localizada

22% doença localmente avançada

57% doença metastizada



Pontos de reflexão

- Os dados epidemiológicos globais e nacionais revelam um **peso significativo da neoplasia do pulmão**, quer em termos de incidência, quer de mortalidade, com **perspetivas de aumento nos próximos anos**.
- Tem-se assistido nos últimos anos a um notável desenvolvimento nos meios diagnósticos e terapêuticos, no sentido de oferecer aos doentes com esta patologia, um **tratamento cada vez mais individualizado**, em função do estágio, classificação histológica e molecular.
- A atual abordagem do doente com cancro do pulmão é um **processo dinâmico, exigente e em ampla expansão**.



Pontos de reflexão

- A estratégia terapêutica do doente com deve basear-se numa **decisão multidisciplinar**, dependente de um circuito “complexo” com vários intervenientes.
- Os dados facultados pelo ROR não traduzem a totalidade dos casos de diagnóstico de tumores torácicos identificados pela Unidade de Pneumologia do HVFX.
- **De que forma poderemos contribuir para o registo dos casos de Tumores torácicos no ROR?**
 - Inclusão de outros elementos: factores de risco (tabagismo e exposição ambiental/profissional), duração dos sintomas
 - Estadiamento clínico rigoroso (resultante de RMD)
 - Sinalizar casos de doentes que referenciamos para diagnóstico noutra instituição?





**Obrigada pela
atenção!**

